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10/023,643	12/21/2001	Timothy Harris Kuhl	123081-339668 (T01215-008)	6337
27155 7590 01/03/2007 MCCARTHY TETRAULT LLP BOX 48, SUITE 4700, 66WELLINGTON STREET WEST TORONTO, ON M5K 1E6 CANADA			EXAMINER SCHEIBEL, ROBERT C	
			ART UNIT	PAPER NUMBER
			2616	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/023,643

Applicant(s)

KUHL ET AL.

Examiner

Robert C. Scheibel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,10-12,19,22-25 and 28-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,10-12,19,22-25,28-33 and 36 is/are rejected.
- 7) ☒ Claim(s) 34 and 35 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

- Examiner acknowledges receipt of the Request for Continued Examination and enclosed amendment received on 9/22/2006.
- Claims 1, 10, 11, 12, 19, 23 are currently amended.
- Claims 28-36 are newly added.
- Claims 2, 4-7, 13, 15-18, and 26-27 are cancelled with this amendment.
- Claims 1, 10-12, 19, 22-25, and 28-36 are currently pending.

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1, 10-12, 19, 22-25, and 28-36 have been considered but are moot in view of the new grounds of rejection.

### ***Claim Objections***

2. Claim 1 is objected to because of the following informalities: the phrase "the data element" in line 8 should be changed to "the ATM cell"; if this is not the intention of the Applicant, the phrase "the data element" should be given proper antecedent basis in the claim. Appropriate correction is required.
3. Claim 24 is objected to because of the following informalities: the phrase "the second data element" in line 12 should be changed to "the MPLS packet"; if this is not the intention of the Applicant, the phrase "the second data element" should be given proper antecedent basis in the claim. Appropriate correction is required.

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4. Claim **25** is objected to because of the following informalities: the phrase “the second data element” in line 14 should be changed to “the MPLS packet”; if this is not the intention of the Applicant, the phrase “the second data element” should be given proper antecedent basis in the claim. Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims **1, 10-12, 19, 22-25, and 36** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication 2003/0039246 to Guo et al in view of U.S. Patent Application Publication 2003/0169751 to Pulkka et al.

Regarding claims **1 and 12**, Guo discloses a method of translating at least one quality of service (QoS) parameter (the many QoS parameters/requirements of traffic carried in the 3G-RAN described in paragraph 40 on page 4 of Guo) related to a first transmission protocol (the radio protocols used by the BSs and RNCs of figure 4) from said transmission protocol to a MPLS transmission protocol for a data element (radio network packets sent through the MPLS network 406) being sent on a connection from a communication network (radio network) to a MPLS communication network (MPLS switching network 406 of Figure 4) utilizing said MPLS transmission protocol, said method comprising: mapping said at least one QoS parameter (the many QoS parameters/requirements of traffic carried in the 3G-RAN described in paragraph 40 on page 4 of Guo) to a class of service value for said connection (the classes of service are the traffic classes of the radio network controller and/or base station – see lines 8-10 of paragraph 33 on page 3, for example; clearly the mapping between the QoS parameters of paragraph 40 occurs in order to quantify a number of traffic classes); mapping said class of service value and a drop precedence value of the data element to another parameter (the EXP field of the MPLS packet; see paragraph 34 of page 3 which clearly indicates that the EXP field value includes information on both the QoS class as well as the drop precedence; clearly, the drop precedence is used to determine the value to which the EXP field is to be set) indicating a quality of service provisioning for said MPLS transmission protocol (see paragraph 34 on page 3 as described above); converting said data element of said connection to a MPLS frame associated with said second MPLS transmission protocol (see lines 8-12 of paragraph 38 on page 4 of Guo); and incorporating said another parameter into said MPLS frame for transmission of said MPLS frame in the MPLS network with the second MPLS transmission protocol (again, see paragraph 34 on

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page 3 which indicates the use of the EXP field) wherein: said at least one QoS parameter further includes a priority rating (see lines 7-9 of paragraph 44 on page 4) for MPLS frame and at least one of service category, cell loss ratio and cell delay variation (the UMTS traffic classes of paragraph 40 on page 4 are the scheduling classes); said another parameter indicates drop precedence for said MPLS frame in said MPLS communication network (see paragraph 34 on page 3 which describes how the drop precedence is included in the EXP field); and said MPLS frame is provided to said MPLS network for transmission through, a label switched path and said another parameter is inserted in an experimental field of said MPLS frame (see figures 4 and 5 as well as lines 8-12 of paragraph 38 on page 4 of Guo).

Regarding claim 24, Guo discloses a method of formatting a MPLS packet (see abstract, for example) to support a quality of service (QoS) parameter (the many QoS parameters/requirements of traffic carried in the 3G-RAN described in paragraph 40 on page 4 of Guo) related to at least data element when said MPLS packet is transmitted on a MPLS communication network (MPLS switching network 406 of Figure 4), said method comprising: mapping said QoS parameter (the many QoS parameters/requirements of traffic carried in the 3G-RAN described in paragraph 40 on page 4 of Guo) to a class of service value for a MPLS connection for said MPLS packet (the classes of service are the traffic classes of the radio network controller and/or base station – see lines 8-10 of paragraph 33 on page 3, for example; clearly the mapping between the QoS parameters of paragraph 40 occurs in order to quantify a number of traffic classes); mapping said class of service value to another parameter (the EXP field of the MPLS packet) indicating a quality of service provisioning for said MPLS communication network (see paragraph 34 on page 3 as described above); inserting said class of

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service value into a experimental field of a header of said MPLS packet (again, see paragraph 34 on page 3 which indicates the use of the EXP field); and inserting contents of said data element into said MPLS packet (see figures 4 and 5 as well as lines 8-12 of paragraph 38 on page 4 of Guo), wherein said QoS parameter indicates drop precedence for the at least one data element (the EXP field of the MPLS packet; see paragraph 34 of page 3 which clearly indicates that the EXP field value includes information on both the QoS class as well as the drop precedence; clearly, the drop precedence is used to determine the value to which the EXP field is to be set) and the another parameter further indicates drop precedence for said second data element in said MPLS communication network (the EXP field of the MPLS packet; see paragraph 34 of page 3 which clearly indicates that the EXP field value includes information on both the QoS class as well as the drop precedence), said drop precedence of said at least one data element utilizes a value of drop precedence for each of said at least one data element (as indicated above, the EXP field indicates drop precedence, which is clearly derived from the incoming data element (packet)), and said QoS parameter includes a priority rating for the at least one data element (see lines 7-9 of paragraph 44 on page 4) and at least one of a service category, cell loss ratio and cell delay variation (the UMTS traffic classes of paragraph 40 on page 4 are the scheduling classes).

Regarding claim 25, Chen discloses a method of routing at least one data element through a MPLS network (see abstract, for example), said method comprising: mapping a quality of service (QoS) parameter (the many QoS parameters/requirements of traffic carried in the 3G-RAN described in paragraph 40 on page 4 of Guo) related to the at least one data element to a class of service value for a MPLS connection for said MPLS network (the classes of service are the traffic classes of the radio network controller and/or base station – see lines 8-10 of

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paragraph 33 on page 3, for example; clearly the mapping between the QoS parameters of paragraph 40 occurs in order to quantify a number of traffic classes); mapping said class of service value to another parameter (the EXP field of the MPLS packet) indicating a quality of service provisioning for said MPLS communication network (see paragraph 34 on page 3 as described above); creating a MPLS packet (see figures 4 and 5 as well as lines 8-12 of paragraph 38 on page 4 of Guo); inserting class of service value into a experimental field of a header of said MPLS packet (again, see paragraph 34 on page 3 which indicates the use of the EXP field); inserting contents of said at least one data element in said MPLS packet (see figures 4 and 5 as well as lines 8-12 of paragraph 38 on page 4 of Guo); routing said MPLS packet through one or more router in said MPLS communication network according to contents of said another parameter (see figures 4 and 5 as well as lines 8-12 of paragraph 38 on page 4 of Guo), wherein said QoS parameter indicates drop precedence for the at least one data element (the EXP field of the MPLS packet; see paragraph 34 of page 3 which clearly indicates that the EXP field value includes information on both the QoS class as well as the drop precedence; clearly, the drop precedence is used to determine the value to which the EXP field is to be set) and the another parameter further indicates drop precedence for said second data element in said MPLS network (the EXP field of the MPLS packet; see paragraph 34 of page 3 which clearly indicates that the EXP field value includes information on both the QoS class as well as the drop precedence), said drop precedence of said at least one data element utilizes a value of drop precedence for each of said at least one data element (as indicated above, the EXP field indicates drop precedence, which is clearly derived from the incoming data element (packet)), and said QoS parameter includes a priority rating for the at least one data element (see lines 7-9 of paragraph 44 on page



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4) and at least one of a service category, cell loss ratio and cell delay variation (the UMTS traffic classes of paragraph 40 on page 4 are the scheduling classes); and said contents of said another parameter specify experimental (EXP) inferred label switched path scheduling treatment and drop precedence treatment (see paragraph 34 on page 3).

Regarding claim 36, Chen discloses a method of translating at least one quality of service (QoS) parameter (the many QoS parameters/requirements of traffic carried in the 3G-RAN described in paragraph 40 on page 4 of Guo) related to a first transmission protocol (the radio protocols used by the BSs and RNCs of figure 4) from said first transmission protocol to a second transmission protocol (MPLS) for a data element (radio network packets sent through the MPLS network 406) being sent on a connection from a first cell-based communication network utilizing said first transmission protocol to a second communication network utilizing said second transmission protocol, said method comprising: mapping said at least one QoS parameter (the many QoS parameters/requirements of traffic carried in the 3G-RAN described in paragraph 40 on page 4 of Guo) to a class of service value for said connection (the classes of service are the traffic classes of the radio network controller and/or base station – see lines 8-10 of paragraph 33 on page 3, for example; clearly the mapping between the QoS parameters of paragraph 40 occurs in order to quantify a number of traffic classes); mapping said class of service value and a drop precedence value of the data element to another parameter (the EXP field of the MPLS packet; see paragraph 34 of page 3 which clearly indicates that the EXP field value includes information on both the QoS class as well as the drop precedence; clearly, the drop precedence is used to determine the value to which the EXP field is to be set) indicating a quality of service provisioning for said second transmission protocol (see paragraph 34 on page 3 as described

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above); converting said data element of said connection to a second data element associated with said second transmission protocol (see lines 8-12 of paragraph 38 on page 4 of Guo); and incorporating said another parameter into said second data element for transmission of said second data element in the second network with the second transmission protocol (again, see paragraph 34 on page 3 which indicates the use of the EXP field).

Guo does not disclose expressly the limitation that the first transmission protocol is an ATM protocol (or cell-based protocol in claim 36), the associated data elements (that are converted to MPLS frames) are ATM cells, or that the service category is an ATM service category.

However, Pulkka discloses the concept of mapping ATM to MPLS networks in paragraph 50 on page 5. Guo and Pulkka are analogous art because they are from the same field of endeavor of gateways between two different networks. At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Guo to map ATM cells to the MPLS packets rather than the radio protocols used in Guo. The motivation for doing so would have been to interconnect existing ATM networks using the MPLS network and the scheme of Guo. This is suggested by Pulkka in paragraph 50 on page 5 where it is suggested that future gateways could perform ATM to MPLS mapping. Therefore, it would have been obvious to combine Pulkka with Guo for the benefit of interconnecting existing ATM networks using an MPLS network to obtain the invention as specified in claims 1, 12, 24, 25, and 36.

Regarding claim 10, Guo discloses the limitation that said label switched path is an experimental inferred per hop behavior label switched path (E-LSP) in the E-LSPs discussed throughout; see paragraph 34 on page 3, for example.

Regarding claim **11**, Guo discloses the limitation that said label switched path is a label inferred per hop behavior label switched path (L-LSP) in the L-LSPs discussed throughout; see paragraph 35 on page 3, for example.

Regarding claim **19**, Guo discloses the limitation that said network element transmits said MPLS frame over said MPLS network through a label switched path and said value of said another transmission parameter is inserted in an experimental field of said MPLS frame in figures 4 and 5, paragraph 34 on page 3, as well as lines 8-12 of paragraph 38 on page 4 of Guo.

Regarding claim **22**, Guo discloses the limitation that said label switched path is an experimental inferred per hop behavior label switched path (E-LSP) in the E-LSPs discussed throughout; see paragraph 34 on page 3, for example.

Regarding claim **23**, Guo discloses the limitation that said label switched path is a label inferred per hop behavior label switched path (L-LSP) in the L-LSPs discussed throughout; see paragraph 35 on page 3, for example.

8. Claims **28-29** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication 2003/0039246 to Guo et al.

Regarding claim **28**, Chen discloses a method of transporting data traffic of a first transmission protocol through an MPLS network from an edge network element (see figure 4) connected to an ingress point (see first element in network 406 on path 400) of the MPLS network to an egress point (see last element in network 406 on path 400) of the network, while maintaining a quality of service (QoS) of the data traffic, the method comprising: providing a mapping (see paragraph 44 on page 4) with correspondence between a plurality of QoS

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parameters (the many QoS parameters/requirements of traffic carried in the 3G-RAN described in paragraph 40 on page 4 of Guo) relating to the data traffic arriving at the edge network element and a plurality of classes of service for MPLS frames generated from the data traffic at said edge device for transmission through the MPLS network (the classes of service are the traffic classes of the radio network controller and/or base station – see lines 8-10 of paragraph 33 on page 3, for example; clearly the mapping between the QoS parameters of paragraph 40 occurs in order to quantify a number of traffic classes), each one of the plurality of classes of service for maintaining a QoS of its corresponding QoS parameter in the MPLS network (see paragraph 45 on pages 4-5); identifying a QoS parameter of a data element of the data traffic arriving at the edge device over a connection (the packets arriving at the MPLS network have QoS requirements from the 3G network and are clearly identified in order to properly support that QoS in the MPLS network; see paragraph 34 on page 3 and paragraph 41 on page 4, for example) and encapsulating the data element into a MPLS frame (see figures 4 and 5 as well as lines 8-12 of paragraph 38 on page 4 of Guo); identifying one class of the plurality of classes of service corresponding to the QoS parameter of the data packet and inserting a class of service identifier associated with the one class into an unused field of the outer label of the MPLS frame (the EXP field; see paragraph 34 on page 3 as described above) carrying the data element; and transporting the MPLS frame across the MPLS network (see figures 4 and 5 as well as lines 8-12 of paragraph 38 on page 4 of Guo), the MPLS frame identifying the one class of service of the data element in the MPLS frame to maintain the QoS of the data traffic (again, see paragraph 34 on page 3 as well as the discussion on MPLS routing throughout).

However, Guo does not disclose expressly that the mapping is conveyed through a table data structure. However, the mapping is clearly disclosed as described above. At the time of the invention, it would have been obvious for one of ordinary skill in the art to implement this mapping using a table data structure. It is well-known in the art to store parameters for mapping one parameter to another in a table. The motivation for doing so would have been to first store the mapping information and second to do so in a simple and efficient manner. A table satisfies both of these motivations and thus, it would have been obvious to modify Guo to implement the mapping in a table format to obtain the invention as specified in claim 28.

Regarding claim 29, Guo discloses the limitation that the unused field is the EXP field of the MPLS frame in paragraph 34 on page 3.

9. Claims 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication 2003/0039246 to Guo et al in view if U.S. Patent Application Publication 2003/0169751 to Pulkka et al.

Parent claim 29 is disclosed as described in the obviousness rejection under 35 U.S.C. 103(a) above. Guo further discloses the limitation of claim 30 that the QoS parameter includes a drop precedence parameter in paragraph 34 of page 3 which clearly indicates that the EXP field value includes information on both the QoS class as well as the drop precedence; clearly, the drop precedence is used to determine the value to which the EXP field is to be set. However, Guo does not disclose expressly the limitation that the data element is an ATM cell or that the drop precedence parameter is taken from a CLP bit of the ATM cell.

However, Pulkka discloses the concept of mapping ATM to MPLS networks in paragraph 50 on page 5. Clearly, CLP is the drop precedence field in ATM and thus, the drop precedence in this case would be taken from the CLP bit of the ATM cell. Guo and Pulkka are analogous art because they are from the same field of endeavor of gateways between two different networks. At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Guo to map ATM cells to the MPLS packets rather than the radio protocols used in Guo. The motivation for doing so would have been to interconnect existing ATM networks using the MPLS network and the scheme of Guo. This is suggested by Pulkka in paragraph 50 on page 5 where it is suggested that future gateways could perform ATM to MPLS mapping. Therefore, it would have been obvious to combine Pulkka with Guo for the benefit of interconnecting existing ATM networks using an MPLS network to obtain the invention as specified in claim 30.

Regarding claim 31, Guo discloses the limitation that the QoS parameter includes a scheduling priority parameter for the ATM cell in lines 7-9 of paragraph 44 on page 4.

10. Claims **32-33** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication 2003/0039246 to Guo et al in view of U.S. Patent Application Publication 2003/0169751 to Pulkka et al and in further view of U.S. Patent Application Publication 2002/0093980 to Trebes, Jr.

Parent claim 31 is disclosed by Guo and Pulkka as described in the rejection under 35 U.S.C. 103(a) above. However, the combination of Guo and Pulkka does not disclose expressly the limitation of claim 32 that when a cell arrives at the edge network element, the QoS

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parameter identifies a service category for the ATM connection, a cell loss ratio (CLR) for the ATM connection, and a cell delay variation (CDV) for the ATM connection. However, these are well-known parameters for characterizing the quality of service of an ATM connection. For example, consider paragraphs 62-68 of Trebes. At the time of the invention it would have been obvious to a person of ordinary skill in the art to determine all of these parameters to characterize the ATM connection upon the arrival of a cell. The motivation for doing so would have been to better characterize the QoS level of the connection associated with the incoming cells. Therefore, it would have been obvious to combine Trebes with Guo, modified, for the benefit of better characterizing the QoS level of the connection associated with the incoming cells to obtain the invention as specified in claim 32.

Regarding claim 33, Guo, modified, discloses the limitation that the plurality of QoS parameters defines properties relating to at least one of ATM service category, a CLR and a CDV in paragraphs 62-68 of Trebes.

#### ***Allowable Subject Matter***

11. Claims **34-35** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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- “Supporting Differentiated Services in MPLS Networks” to Andrikopoulos et al discloses a method of supporting QoS over MPLS similar to the present application.
- U.S. Patent Application Publication 2003/0053464 to Chen et al discloses a method of sending data packets through a MPLS network.
- U.S. Patent Application Publication 2001/0049739 to Wakayama et al discloses a method for interworking between MPLS and non-MPLS networks.
- U.S. Patent Application Publication 2002/0136223 to Ho discloses a method for interworking PNNI with the protocols used in MPLS networks.
- U.S. Patent Application Publication 2004/0213242 to Ando, et al, discloses an ATM switch.
- U.S. Patent 6,795,445 to Kabie et al discloses a method for hierarchical bandwidth management in multiservice networks.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert C. Scheibel whose telephone number is 571-272-3169. The examiner can normally be reached on Monday and Thursday from 7:00-5:30 Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*RCS* 12-11-06

Robert C. Scheibel  
Patent Examiner  
Art Unit 2616

*Seema S. Rao*  
SEEMA S. RAO 12/11/06

SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600